Amendments to the Claims:

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

5   1. (Currently amended) A method for redundant array of independent disks (RAID) consistency initialization comprises:

creating a RAID, including setting a RAID configuration of the RAID and creating an initialization progress table for storing progress states of the initialization of the RAID; and

10   the initialization progress table including a plurality of fields for storing initialization states of each of a plurality of initialization regions of the RAID so as to indicate which initialization regions have been initialized by a regional initialization and which initialization regions have not yet been initialized, in which after the initialization progress table is created

15   and before the consistency initialization is completed, the RAID is allowed to be accessed while the consistency initialization is in progress, and data in the initialization regions of the RAID are made consistent with one another by the consistency initialization.

20   2. (Original) The method of claim 1 wherein the RAID configuration is stored in a non-volatile memory device.

3. (Previously presented) The method of claim 1 wherein the consistency initialization comprises an induced consistency initialization which

25   comprises steps of:

detecting, when the RAID receives an I/O, whether the initialization region(s) that is(are) associated with the I/O has(have) completed with the regional initialization; and

initializing the initialization region(s) that is(are) associated with the I/O first if

30   the initialization region(s) that is(are) associated with the I/O has(have)

not completed with the regional initialization.

4. (Previously presented) The method of claim 1, further comprising steps of:

detecting, when the RAID receives an I/O, whether the initialization region(s)

5   that is(are) associated with the I/O is(are) completed with the regional
       initialization;

waiting for completion of the regional initialization if the initialization region(s)
       that is(are) not completed with the regional initialization and the regional
       initialization is being performed on the initialization region(s) that is(are)

10   associated with the I/O;

updating an initialization state change of the initialization region(s), into the
       initialization progress table; and

writing the updated initialization progress table into a non-volatile memory
       device before an I/O result is returned.

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5. (Previously presented) The method of claim 4, wherein the I/O accesses the
       RAID after the step of writing the updated initialization progress table into
       the non-volatile memory device.

20   6. (Previously presented) The method of claim 4 wherein the I/O accesses the
       RAID before the step of writing the updated initialization progress table into
       the non-volatile memory device.

7. (Previously presented) The method of claim 1, further comprising step of:

25   performing a consecutive consistency initialization on the initialization
       regions that have not yet been completed with the regional initialization.

8. (Previously presented) The method of claim 7, wherein the consecutive
       consistency initialization comprises steps of:

30   selecting one of the initialization regions which have not yet been completed

with the regional initialization;

performing the regional initialization on the selected initialization region if the region initialization is not already being performed on the selected initialization region;

5 updating an initialization state change of the selected initialization region, into the initialization progress table;

writing the updated initialization progress table into a non-volatile memory device, when the regional initialization is performed at a suitable time, wherein the suitable time is a timing when a predetermined number of

10 initialization regions is completed with the regional initialization, or when a predetermined time has elapsed after the initialization progress table is stored in a member disk; and

repeating aforesaid steps until all initialization regions have been completed with the regional initialization.

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9. (Previously presented) The method of claim 8 further comprising, after all initialization regions have been completed with the regional initialization, step of: writing a state which shows that all initialization regions are completed with initialization, into a non-volatile memory device.

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10. (Previously presented) The method of claim 7, wherein the consecutive consistency initialization comprises steps of:

performing a regional initialization priority adjustment mechanism to determine whether to select one of the initialization regions which have

25 not yet been completed with the regional initialization;

selecting one of the initialization regions which have not yet been completed with the regional initialization;

performing the regional initialization on the selected initialization region if the regional initialization is not being performed on the selected initialization

30 region;

updating an initialization state change of the selected initialization region in the initialization progress table;

writing the updated initialization progress table into a non-volatile memory device, when the regional initialization is performed at a suitable time, wherein the suitable time is a timing when a predetermined number of initialization regions is completed with the regional initialization, when a predetermined percentage of the initialization regions is completed with the regional initialization, or when a predetermined time has elapsed after the initialization progress table is stored in a member disk; and

repeating aforesaid steps until all initialization regions have been completed with the regional initialization.

11. (Previously presented) The method of claim 1, wherein the consistency initialization further comprises a consecutive consistency initialization, and after the initialization progress table is created, the consecutive consistency initialization is allowed to start anytime.

12. (Previously presented) The method of claim 7, wherein the RAID is allowed I/O accessing before the consecutive consistency initialization.

13. (Original) The method of claim 1, wherein the consistency initialization comprises dividing a data space of member disks into a plurality of initialization regions and performing the regional initialization on the initialization regions.

14. (Original) The method of claim 3, wherein the consistency initialization comprises dividing a data space of member disks into a plurality of initialization regions and performing the regional initialization on the initialization regions.

15. (Previously presented) The method of claim 3, wherein the consistency initialization comprises dividing a data space of member disks into a plurality of initialization regions and performing the regional initialization on the initialization regions, and after the I/O that induces the regional initialization completes access to a data space of the RAID, the initialization progress table is written into a non-volatile memory device, and then an I/O result is returned.

16. (Previously presented) The method of claim 3, wherein the consistency initialization comprises dividing a data space of member disks into a plurality of initialization regions and performing the regional initialization on the initialization regions, and after the initialization progress table is first written into a non-volatile memory device, an I/O accesses the data space of the RAID.

17. (Original) The method of claim 2, wherein the non-volatile memory device is a member disk.

18. (Previously presented) The method of claim 2, wherein there are a plurality of versions of the initialization progress table stored in the non-volatile memory device.

19. (Previously presented) The method of claim 1, wherein if a member disk has failed, and a new member disk is used to perform a rebuilding of the RAID before the completion of the consistency initialization, the rebuilding only has to perform on the initialization regions which have been completed with the consistency initialization and the rebuilding on the regions which have not been completed with the consistency initialization can be performed by the consistency initialization.

20. (Previously presented) The method of claim 1, wherein when an I/O operation accessing the RAID is a read operation, and the initialization region on the RAID to be accessed by the I/O has not been initialized yet, no consistency initialization is performed on the initialization region, and a value of zero or a predetermined value will be returned directly.

21. (Previously presented) The method of claim 1, wherein when the RAID performs an I/O operation and causes an induced consistency initialization, if the induced consistency initialization has been completed but the I/O operation has not been completed while the initialization progress table has been updated and written into member disks of the RAID, the updated initialization progress table will not be written into the member disks again due to completion of the I/O operation.

22. (Original) The method of claim 2, wherein the memory device is a battery backed-up SRAM, a flash RAM or a disk drive except a member disk.

23. (Previously presented) The method of claim 1, wherein the consecutive consistency initialization comprises steps of:

detecting, when the RAID receives an I/O, whether one of the initialization regions that are associated with the I/O has not been started with the regional initialization; and

performing the regional initialization on said initialization region that is associated with the I/O first if said initialization region that is associated with the I/O has not yet started the regional initialization.

24. (Previously presented) The method of claim 23, further comprising a step of performing a consecutive consistency initialization on the initialization regions that have not yet completed the regional initialization.